

WEATHER OF THE MONTH.

551.506 (261.1) WEATHER OF NORTH AMERICA AND ADJACENT OCEANS. NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

The average pressure for the month was somewhat higher than usual at land stations on the coast of Canada, and considerably so in northern European waters, while it was not far from the normal on the Atlantic and Gulf coasts of the United States.

The number of days on which winds of gale force occurred was considerably above the normal over the greater part of the steamer lanes. They were reported on 10 days in each of the three 5° squares between the 40th and 45th parallels, and the 40th and 55th meridians, and also in the square between the 45th and 50th parallels and the 35th and 40th meridians.

Few fog reports were received from vessels, or from land stations on the American coast, although it was frequently observed in the British Isles.

On the 1st and 2d there was a moderate disturbance of limited extent over the eastern section of the steamer lanes. On the 4th St. Johns, N. F., was near the center of a well-developed low, and the storm area extended from the 37th to 47th parallels and the 35th to 60th meridians.

British S. S. *British Empress*: Gale began on the 2d. Lowest barometer, 29.43 inches at 4 a. m. on the 5th; position, latitude 42° 32' N., longitude 37° 43' W. End of gale on the 6th. Highest force of wind 10, SW.; shifts near time of lowest barometer S.-SW.-NW.

American S. S. *Lapland*: Gale began on the 3d. Lowest barometer, 29.07 inches, at 11.30 p. m. on the 3d; position, latitude 41° 12' N., longitude 50° 48' W. End of gale on the 5th. Highest force of wind 9; shifts SSW.-WSW.

American S. S. *Hera*: Gale began on the 5th. Lowest barometer, 29.32 inches at 2.50 a. m. on the 5th; position, latitude 49° 45' N., longitude 22° 15' W. End on the 6th. Highest force of wind 10, SSW.; shifts SW.-W.

This low moved rapidly, and on the 5th the center was near mid-ocean, the eastern section of the steamer lanes being swept by southerly to westerly gales.

Charts IX, X, XI, and XII show the conditions on the 6th, 7th, 8th, and 9th, respectively, where exceptionally heavy winds prevailed over an extensive region, they being especially severe on the last two days. This storm was responsible for a large number of casualties and was remarkable for the large area covered, and its slow rate of movement during the last 3 days. Storm logs follow:

British S. S. *Custodian*: Gale began on the 6th. Lowest barometer, 29.35 inches, at 5.30 a. m. on the 6th; position, latitude 37° 29' N., longitude 67° 01' W. End on the 7th. Highest force of wind 10, NW.; steady from NW.

Dutch S. S. *Maasdiijk*: Gale began on the 6th. Lowest barometer, 28.71 inches at midnight on the 8th; position, latitude 40° 29' N., longitude 46° 58' W. End on the 10th. Highest force of wind 11, SE.; shifts, SE.-S.-WSW.-WNW.-S.-SSE.-SW.-W.

Belgian S. S. *Eglantier*: Gale began on the 6th. Lowest barometer, 29.05 inches at 7 a. m. on the 7th; position, latitude 46° N., longitude 56° 20' W. End on the 9th. Highest force of wind 11, NE.; steady from NE.

American S. S. *Hera*: Gale began on the 7th. Lowest barometer, 29 inches at 11 p. m. on the 9th; position,

latitude 46° 36' N., longitude 42° W. End on the 9th. Highest force of wind 11, SW.; shifts not given.

British S. S. *Rathlin Head*: Gale began on the 7th. Lowest barometer, 29.65 inches at 5 a. m. on the 8th; position, latitude 42° 15' N., longitude 30° 40' W. End on the 9th. Highest force of wind 11, S.; shifts SSE.-SSW.

British S. S. *Galtymore*: Gale began on the 8th. Lowest barometer, 29 inches at 9 a. m. on the 9th; position, latitude 52° 11' N., longitude 38° 28' W. End on the 10th. Highest force of wind 10, SE.; shifts W.-SW.-S.-SW.

Dutch S. S. *Karimata*: Gale began on the 9th. Lowest barometer, 29.18 inches at 8 a. m. on the 9th; position, latitude 36° 43' N., longitude 49° 20' W. End on the 9th. Highest force of wind 11, NW.; shifts WSW.-NW.

By the 10th the intensity of this disturbance had decreased to a considerable degree, although a few reports were received from vessels in the mid-section of the steamer lanes that had encountered moderate to strong southerly gales on that day.

On the 11th a low central off the New Jersey coast was responsible for southwesterly gales over the territory between the 30th and 37th parallels, west of the 68th meridian. This disturbance moved in a northeasterly direction along the coast, and on the 12th the center was near Sydney, Nova Scotia, where a barometer reading of 28.96 inches was recorded. The storm area had increased in extent and now covered the region between the 30th and 45th parallels, and the 40th meridian and the American coast. Storm logs:

American S. S. *El Sud*: Gale began on the 10th. Lowest barometer, 29.63 inches at 9 a. m. on the 11th; position, latitude 34° N., longitude 75° 52' W. End on the 12th. Highest force of wind 9, SW.; shifts SW.-W.-SW.

American S. S. *Santa Paula*: Gale began on the 11th. Lowest barometer, 29.59 inches at noon on the 11th; position, latitude 36° 17' N., longitude 68° 37' W. End on the 12th. Highest force of wind 9; shifts SW.-WSW.

American S. S. *Clauscus*: Gale began on the 11th. Lowest barometer, 29.62 inches at 3 p. m. on the 11th; position, latitude 32° 50' N., longitude 71° 20' W. End on the 12th. Highest force of wind 9, WNW.; shifts WSW.-WNW.

British S. S. *Vasconia*: Gale began on the 12th. Lowest barometer, 29.67 inches on the 12th; position, latitude 43° 12' N., longitude 45° 58' W. End of gale on the 13th. Highest force of wind 10, SW.; shifts SSW.-SW.

On the 13th and 14th a few reports were received denoting southerly gales between the 45th and 52d parallels and the 30th and 37th meridians, accompanied by comparatively high barometer readings. On the latter date moderate westerly gales were also encountered east of the Bermudas, between the 50th and 55th meridians.

On the 15th, 16th, and 17th there was a severe disturbance over the western and central sections of the ocean, as shown by Charts XIII, XIV, and XV, respectively. Storm logs:

American S. S. *Haleakala*: Numerous rain squalls. NW. wind of hurricane force. Heavy NW. sea. Position at Greenwich mean noon on the 15th; latitude 38° N., longitude 60° W.

551.506 (265.2)
NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

British S. S. *Wayfarer*: Gale began on the 14th. Lowest barometer, 29.89 inches at 8 a. m. on the 15th; position, latitude 43° 45' N., longitude 33° 40' W. End of gale on the 15th. Highest force of wind 9, SSW.; steady from SSW.

British S. S. *Bolivian*: Gale began on the 15th. Lowest barometer, 29.40 inches at noon on the 15th; position, latitude 40° 29' N., longitude 59° 35' W. End on the 17th. Highest force of wind 11, NW.; shifts W.-N.

British S. S. *Celtic*: Gale began on the 15th. Lowest barometer, 28.78 inches on the 15th; position, latitude 41° 03' N., longitude 55° 56' W. End on the 16th. Highest force of wind 11, WNW.; shifts SSW.-NW.-N.

American S. S. *East Cape*: Gale began on the 16th. Lowest barometer, 29.17 inches at 6 p. m. on the 16th; position, latitude 49° 10' N., longitude 38° 30' W. End on the 17th. Highest force of wind 10, S.; shifts SSW.-SE.-E.-SSW.

From the 18th to the 20th moderate weather prevailed over practically the entire ocean, with the average pressure considerably above the normal.

On the 21st a well-developed low was central near Sable Island, Nova Scotia, and strong southerly gales prevailed in the easterly quadrants, while northerly winds of gale force were encountered between the 60th meridian and the American coast.

From the 22d to the 24th heavy weather was reported from the western section of the ocean, between the 30th and 40th parallels, and the 50th and 67th meridians.

From the 21st to the 24th gales were also encountered by vessels in the eastern division of the steamer lanes, although not enough reports have been received from these waters to permit of an accurate determination of the centers and extent of these disturbances.

Storm logs:

British S. S. *Ninian*: Gale began on the 21st. Lowest barometer, 29.70 inches at 6 a. m. on the 21st; position, latitude 42° 19' N., longitude 62° 58' W. End of gale on the 21st. Highest force of wind 9; shifts W.-N. by E.

American S. S. *Jackson*: Gale began on the 21st. Lowest barometer, 29.12 inches at 4 a. m. on the 21st; position, latitude 58° 45' N., longitude 12° W. End on the 24th. Highest force of wind 10. Shifts not given.

American S. S. *Osawatimie*: Gale began on the 21st. Lowest barometer, 29.45 inches at 2 a. m. on the 22d; position, latitude 43° 49' N., longitude 41° 25' W. End on the 23d. Highest force of wind 9, WNW.; shifts SSW.-W.-NW.-N.

American S. S. *Ipswich*: Gale began on the 22d. Lowest barometer, 29.32 inches at 11 p. m. on the 22d; position, latitude 35° 41' N., longitude 61° 18' W. End on the 23d. Highest force of wind 9; shifts SW.-W.-WNW.

American S. S. *Bellingham*: Gale began on the 22d. Lowest barometer, 29.54 inches at 11 p. m. on the 22d; position, latitude 35° 44' N., longitude 60° W. End on the 23d. Highest force of wind 12, W.; shifts SSW.-NW.

From the 25th to the 28th, while moderate gales were reported by a few vessels in widely scattered localities, moderate weather with high pressure and slight gradients prevailed over the ocean as a whole.

At Midway Island pressure was above the normal by moderate amounts on the 2d, 9th, 10th, 12th, 15th, and 28th. On other days it was below normal, markedly so from the 18th to 26th, for which period the daily deficiency averaged some 0.33 inch.

At Honolulu the pressure curve closely followed that of Midway Island, but the departures were not so great in amount.

At Dutch Harbor pressure was generally below normal until the 9th, when high pressure set in and continued until the 20th, the daily excess during this period amounting to about 0.35 inch. Following this the pressure fell so as to result in an average daily deficiency of about 0.60 inch for the last eight days of the month. This was in connection with the development of a depression of great extent, covering the whole of the central part of the ocean during much of the last decade.

The general character of the weather of the north Pacific during February was stormy, more especially along the northern steamer routes, resembling in this respect the weather of the preceding December. So far as noted there was an abatement of the strong northeast trades, which were a feature of the weather of January.

During the first decade the gales reported appear to have resulted from a series of comparatively small depressions, as they were reported from different parts of the ocean instead of being grouped, as is frequently the case. During the second and third decades the gales were quite noticeably grouped, appearing to have resulted principally from two depressions, one of rather small extent which moved eastward over the Gulf of Alaska from the 11th to 13th, the other a more important depression, or closely related series of depressions, which advanced from the western part of the ocean and culminated in the large cyclone of the last decade, already referred to.

Of the experiences of the vessels involved in the first of these disturbances that of the Japanese S. S. *Tokushima Maru*, Capt. S. Shibutani, Yokohama for Vancouver, is typical. This vessel was in latitude 51° 12' N., longitude 160° 25' W., on the 13th and on that day had a whole gale accompanied by a high sea. The wind shifted from SSE. to NNW. by way of S. The *Tokushima Maru* had previously experienced heavy weather on the 2d, in longitude 144° E., and on the 6th and 7th, in longitude 160-164° E.

Commencing about the 12th stormy weather set in over that part of the ocean to the eastward of Japan and the Kuriles and during the following week gales were reported very generally by vessels in those waters. During the succeeding week there was a noticeable eastward movement of the gale area to about mid-ocean.

The American S. S. *Salina*, Capt. Wilhelm Sorenson, Manila (Feb. 4) for San Francisco, was one of the vessels involved. Mr. F. P. Marshall, second officer and observer, has furnished the following report of the gale:

Gale began on the 12th; lowest barometer, 29.32 inches at 2 a. m. of the 13th, in latitude 35° 48' N., longitude 155° 44' E.; end of gale on the 17th; highest